

## APPENDIX C: FACTOR MAP DETAILS

### Available Water Content Map Modeling Methods

From: Penn State's Earth System Science Center website

[http://www.essc.psu.edu/soil\\_info/index.cgi?soil\\_data&conus&data\\_cov&awc&methods](http://www.essc.psu.edu/soil_info/index.cgi?soil_data&conus&data_cov&awc&methods)

The mean available water capacity for each STATSGO map unit was computed for a column length of 250 cm, measured from the surface. This column length was chosen because 250 cm is the maximum depth for which data is available for any mapunits.

The STATSGO Layer table specifies a range of AWC values, as volumetric percent, for each layer of each mapunit component. The mean AWC for each layer was computed by taking the simple mean of the low (AWCL) and high (AWCH) ends of the range, and then multiplying by the layer thickness to get total column AWC for the layer. The total AWC in the top 250 cm of the component was determined by adding the contributions of all component layers that were within these distances of the surface. The values for each component of the mapunit were then weighted by the COMPPCT value in the Component table to determine an average AWC for the mapunit.

Many STATSGO Component table entries for depth-to-bedrock used 60 inches (152 cm) to indicate that bedrock was not encountered within this distance of the surface. In computing AWC, it was assumed that there was no water capacity below the specified depth-to-bedrock unless the STATSGO Layer table explicitly described soil layers extending below this depth. Accordingly, the computed AWC for a 250 cm column will often understate the actual value.

### Other maps details:

#### **Slope**

Units = degrees

Source: Mosaicking of DEMs on CASIL website

#### **Elevation**

Units = feet

Source: Mosaicking of DEMs on CASIL website

#### **Precipitation**

Units = Average annual precipitation in inches.

Source: California Mean Annual Precipitation Zones, 1900-1960 map from CDF-FRAP website.

#### **Mean Annual Temperature**

Units = Degrees C

Source = Daymet